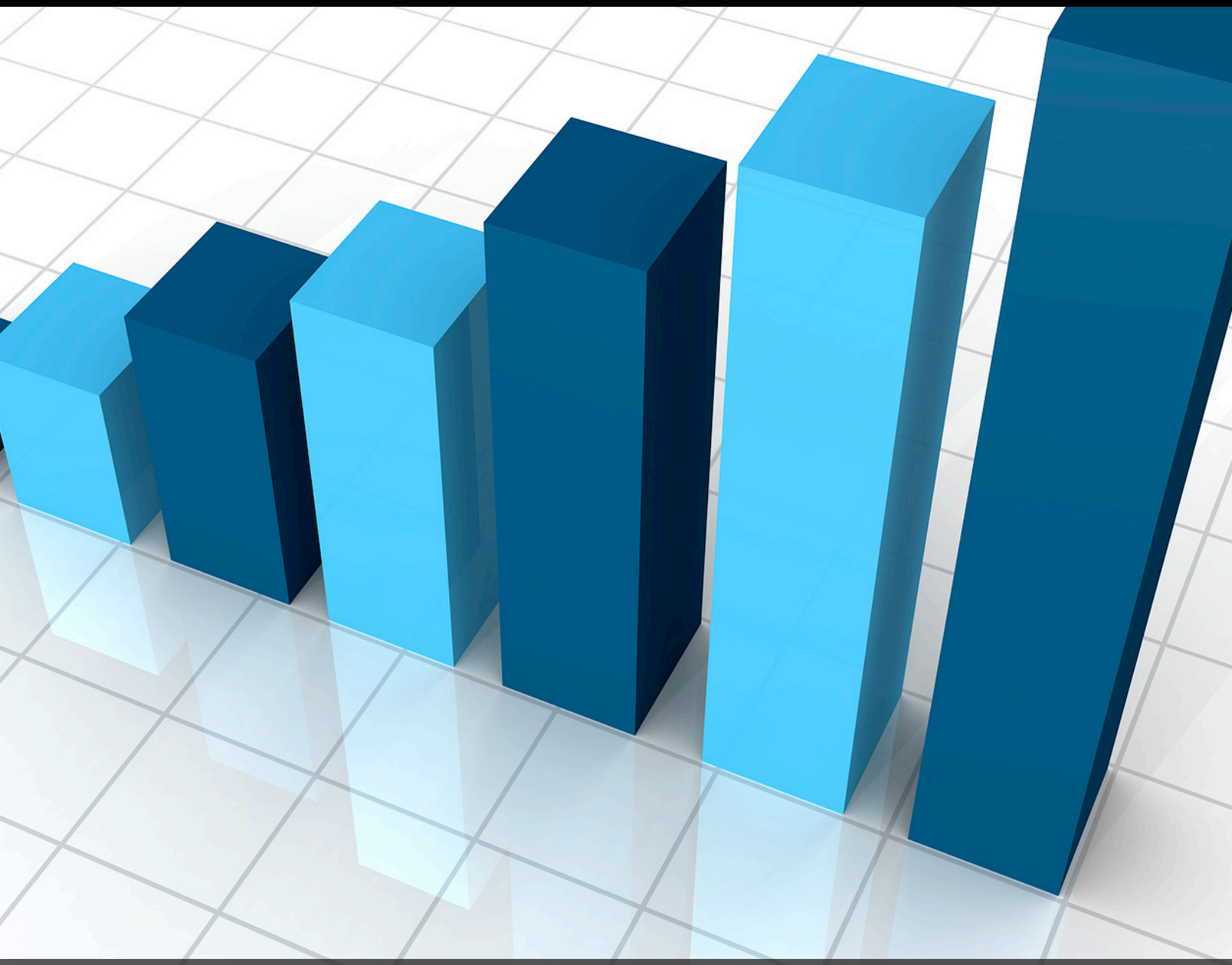
introduction to KAIZEN



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Kaizen

Kaizen literally means improvement - improvement in your personal life, your spiritual life and your working life. When a company adopts the Kaizen model, it strives to improve its processes in small but meaningful ways. And not just a one time improvement, but a commitment to excellence by constantly testing and improving the work flow, day in and day out.

Kaizen was first introduced in the Toyota manufacturing plant in Japan in the early 1950s, and it has since become one of the country's main reasons for its success. In Japan, kaizen is a way of life in the workplace, from the office of the CEO all the way down to shop apprentice. They take it very seriously, and for good reason. Kaizen has led them from a defeated wartime nation to one of the strongest industrialized countries in the world.



But the best thing about kaizen – and the biggest reason that every company should adopt it – is that it does not rely on expensive innovative solutions. Just the opposite is true. The core principal of kaizen is to make small, immediate improvements in the processes

and standards of the workplace. But not just one improvement. Looking for ways to make small improvements should be part of everyone's job, every day of the week. And after a period of time, all of these small improvement will add up to better working conditions, a (Imai, 1997)higher degree of safety, more efficiency and ultimately, greater profits.

Kaizen in Action[1]

Siemens Oostkamp produces electronic components such as relays, connectors and coils. The combination of fewer orders from their parent company and increasingly intensive global competition forced them to look for new markets.

On his first tour of the plant, the kaizen consultant asked the supervisors if specific information was available, such as failure rate or setup times, and the answer was always, "it's in the computer." But when asked to retrieve it, they never could.

The first task was to get the management to understand the need to collect data and make this information visible and accessible. Without this data, there is no way to know where to start.

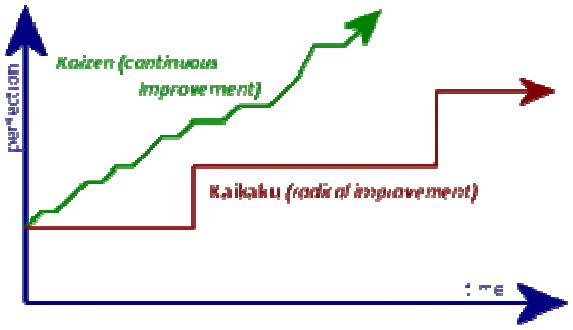
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Kaizen is a Process

To understand what kaizen is, it may be helpful to look at the differences between the traditional western methods of improvement and kaizen.

In the west, innovation is king. When management wants to get better results from their workers, they introduce the latest technology, or incorporate the newest management technique that they saw at the last trade show. Big changes equal big results - that's the mantra that is traditionally chanted in the west. The result is often a big expenditure of money and time and in the end, the results are not that great.

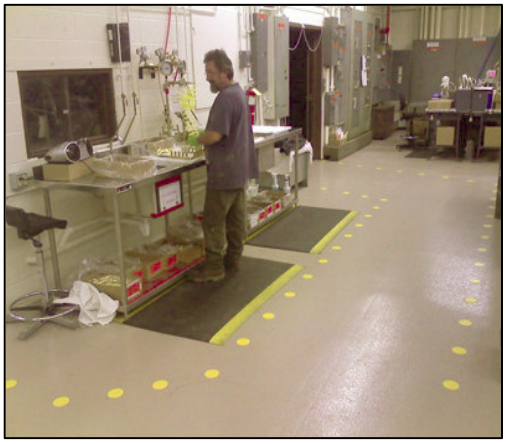
Kaizen is different. Kaizen is the tortoise compared to the western hare. It relies on long-term, long lasting and non-dramatic changes. "Small steps done many times" is the method that they rely on. It is a group effort – everyone is involved and contributing. It requires a small investment of money, but a large investment in effort, cooperation and training. If done correctly, the results are often amazing.



Kaizen is a process. It is not a one time adjustment made to make this quarter's numbers look better. It must become a daily part of every worker's routine. It must become part of the company's culture so managers and employees are constantly looking for small ways to improve the work flow. When that happens, you will have an organization that has become lean, mean and efficient. This is the essence of kaizen. This is its greatest strength.

Gemba Kaizen

Gemba and kaizen go together like peanut butter and jelly. In Japanese, gemba means "real place". In kaizen, there is a phrase that is often used which is "Go to Gemba First." It means that you must go to where the action is, or where the process is completed. It is the workbench, the sales meeting or the cubicle. To make changes in a process, you must actually see the process in action.



Many managers never leave their office. They rely on reports of meetings to get the information that they need. This is completely wrong in the kaizen model. The manager must intimately know the processes the line in order to be able to make the small improvements that are the backbone of kaizen. And that means that they must be constantly watching and learning how their employees are doing things.

In many Japanese companies, gemba is the responsibility of all employees, even financial and administrative. They are required to go to gemba to observe the processes to get a better understanding of their own positions. It is truly a model that is the responsibility of every worker.

Kaizen in Action – Part 2

The management at Siemens Oostkamp overcame initial resistance to change by their hands-on approach. They knew that their place was in *gemba* and continuously motivated their workers to collect data and review their work.

Within a few months, they had enough data to know where to start. To put the kaizen activities in motion, self-managed work teams were formed in which the goals of kaizen were carried out by methods that the teams developed themselves.

With each employee a part of a team, they become more conscious of problems on the line and were able to solve the problems themselves. With this new clarity, they suggested and implemented the small, incremental changes for improvement. And using the newly collected data, they assigned themselves specific goals to shoot for.

To be continued…

Kaizen Concepts

Management

In Kaizen, management has two functions: Maintenance and improvement. Setting standards and keeping them is an important part of kaizen. One of management's primary roles is to maintain the technological and operating standards that have been put into place. They make sure that everyone performs their assigned tasks according to explicitly outlined standards and performs them on a daily basis.

Management's other role is improvement. They must be constantly looking for ways to raise the current operating standards. This is an ongoing effort and must be a daily part of the manager's job.



Process versus Results

Process is the holy grail of kaizen. Managers often concentrate on results too much and pay too little attention to the process. Kaizen will change that behavior. The kaizen manager realizes that improving the process will improve the result. This is why kaizen's main focus is on the process.

PDCA Cycle

The PDCA cycle is a system to ensure the continuation of the kaizen principles. It is a vital part of the process.

- **Plan** refers to establishing a target and a strategy for improvement. This is a must. Without a target, how do you know if you have achieved success?
- **Do** refers to the implementation of your plan.
- **Check** is when you determine if your plan actually improved the process.

- **Act** is the process of standardizing the improved procedure so that it can be continued and so that the problem will not return.

By following the PDCA cycle, you will ensure that your process improves and does not degrade.

Quality First

Quality is always the highest priority in a kaizen system. But quality does not only refer to the finished product, it also refers to the processes and standards that create the product. It runs through all phases of company activity – design, production, management, sales and service. It is both the goal and the method of the production cycle.

Speak with Data

One of kaizen's biggest strengths is that is solves problems. But in order for the model to work, you must gather relevant data that can be analyzed. Without this data you will be flying blind. You will never be able to tell what is working and what needs to be improved. Data is the life blood of the kaizen system.

The Next Process is the Customer

Each product is made by a series of processes, one coming before the next. The kaizen model stresses the importance of quality in each stage of manufacturing. The worker responsible for each stage should *never* pass a defective part (or inaccurate information) to the next stage. This is what is meant by the next process is the customer.

If every worker embraces this philosophy, the end result will be a dramatic drop in defective products.

Visual Management

Another major concept of kaizen is visual management. The opportunities for improvement may present themselves on a daily basis, but if you are not able to see them, they will be missed. One of primary methods used in kaizen is to create an environment where tools, supplies and processes that out of place or out of sync can be seen right away. There are two systems that are used to achieve this: 5S and 5M.



5S

The heart and soul of visual management is 5S. It is systematic approach to workplace organization and cleaning that will transform a disorganized workplace into an efficient running machine.

The 5Ss are:

- **Sort (Seiri)** – The first step in 5S is to eliminate all the things in the workspace that are not being used and store them away. If a tool are material is not used on a daily basis, eliminate it from the workstation.

- **Set in Order (Seiton)** – The second step is to arrange the items used on a daily basis so that they can be easily accessed and quickly stored. Your goal is to make eliminate any unnecessary movements and actions by the worker to make hie process as efficient as possible.

- **Shine (Seiso)** – Next is to get everything cleaned and functioning properly. The goal is to remove all the dirt and the grime and to keep it that way on daily basis. You want to get it clean and keep it clean.

- **Standardize (Seiketsu)** – The fourth step is to develop a routine for sorting, setting and shining. Standardize creates a system of tasks and procedures that will ensure that the principles of 5S are performed on a daily basis.

- **Sustain** (**Shitsuke**) – In the last step, you want to create a culture that will follow the steps on a daily basis. The chief objective of sustain is to give your staff the commitment and motivation to follow each step, day in and day out.

If you are thinking of an initial implementation of 5s, or thinking about expanding it in your company, just remember that your friends at www.CreativeSafetySupply.com have a wide range of training materials and safety products to guarantee success.

The 5 Ms

A great tool for management to maintain and improve the workflow is called the 5 M's. By always keeping an eye on the 5 M's, the managers will be able to see when something is not working in a process.

1. **Manpower** – Managers must know their employees jobs intimately. The must know if they are completing their tasks in the right way, and know what the skill level of each employee is. Is the morale high, or is there a lot of absenteeism or indifference?

2. **Machines** – Each manager must also have an excellent working knowledge of each machine and tool in his department. He must check to see if they are being regularly maintained and if they are in good working order. Are they producing high quality products? If not, is it the fault of the machine?

3. **Materials** – The flow of materials is very important in kaizen. The Just-in-Time model dictates how materials should flow in a process. Only those materials that are needed should be in the work zone. If there are more materials than are needed, they should be stored away in a separate location. Each work station should have a minimum and maximum inventory level for each process.

4. **Methods** – By having standardized methods, the manager will be able to see if the worker is doing their job correctly. Posted worksheets and diagrams that show the sequence and quality

control for each process will help achieve proper adherence to the standardized methods.

5. **Measurements** – How do you know if a process is running smoothly? Productions schedules and targets should be prominently displayed for all to see if improvement is being made. Also, gauges should be clearly marked to show the proper operating ranges of the equipment.

Integrating these tools into your company's culture will ensure that kaizen creates long lasting results in your productivity, team morale, safety and ultimately, your profits.

Kaizen in Action – Part 3

5S, visual management and just-in-time where the main kaizen tools that were utilized by the teams to achieve their goals. In areas that 5S was implemented, the machines and floors were spotless and the machine layouts were changed for a more efficient process flow.

Visual management was evident everywhere. Large charts were displayed that showed plant goals with numerical data and trend charts for each item. Tools had specific, clearly marked homes and floors were marked showing designated areas for supply carts and finished products.

The just-in-time model revealed that changeover times at the molding department were taking too long. They instituted a new procedure that minimized the batch size and the number of boxes of work-in-process thus decreasing the changeover times.

To be continued…

The Kaizen Group

At its core, kaizen is a group effort. Only when the entire organization embraces the ideals of kaizen will you see its benefits. The dedication to kaizen must start at the highest level of management and must infect middle management and the general workforce like a virus.

Kaizen will forever change the manager-worker relationship. Traditionally, the manger's role was to plan, implement and supervise the workers. But by using the small group model in kaizen, the responsibility to plan, do and control falls to the worker. The manager's job is now to motivate and supervise the workers.



Small groups are formed to carry out various specific tasks in the workplace such as quality control, suggestions groups, ways to minimize movement, safety, or any other necessary task. Together they utilize the PDCA cycle to make small but continuous improvements to their areas.

The advantages to this method are enormous. They include:

- Better morale
- Increased sense of teamwork
- Better communication between employees and management
- New skill development

- Workers feel valued and enjoy coming to work
- Removes the drudgery of the job

This small group model is a win-win for both management and workers. Workers begin to enjoy coming to work and management sees the level of quality in their products rise.

Kaizen in Action – Part 4

So did kaizen help Siemens Oostkamp?

- They were able to reduce the cost of inventory by 30%.
- Lead time for their brake coils went from 12 days to half a day.
- Before Kaizen, they kept a three month inventory of cable connectors; this is no longer necessary because the lead time has been reduced to three hours.
- The number of product types has been reduced by 33%.
- Storage area was reduced by 10%.
- The employees are now problem solvers. When a defective product was found, it used to take days to find the problem. Now they can see it right away and make adjustments.

Those are the tangible results. What the numbers don't show is a happier, more fulfilled staff that enjoys coming to work. That translates to fewer sick days, less employee turnover and better safety. That's a success by anyone's standards.

Conclusion

Kaizen means improvement. It means small improvements done consistently over a long period of time. If you integrate the kaizen principles into your workplace, you will see noticeable improvements right away, and great improvements in the long term. You will see improvements in at the workstations, in the office and in your employees. And you will get these results without spending a ton of money on new equipment. Because the results come not from fancy innovation, but from the creation of a workforce that is actively involved in making small improvements to the work flow. It doesn't get any better than that.

Need a place to start? Go to www.CreativeSafetySupply.com for a great selection of training product and DVDs to get you on the right track.

References

1. Kaizen example and other concepts taken from *Gemba Kaizen – a Commonsense, Low-Cost Approach to Management*. Masaaki Imai, New York: McGraw Hill, 1997, pp 257-262.

2. Imai, Masaaki, *Kaizen*. New York: Random House, 1986.